



Andover Link Main, Hampshire

Detailed Gradiometer Survey Report

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Summary

A detailed gradiometer survey has been conducted over land at Andover Link Main, Hampshire. This project consists of a linear scheme running from NGR 437566 145489 to NGR 444978 129437. The survey was commissioned by Southern Water Services Ltd. with the aim of establishing the presence, or otherwise, and nature of detectable archaeological features in support of a planning application for a water main between Andover and Winchester.

The survey area comprises 235 ha of agricultural land, currently utilised as pasture, crop, and scrub. The geophysical survey was undertaken between 10 November 2022 and 04 May 2023.

The survey has produced evidence for archaeological activity across the site. Multiple enclosure ditches have been identified, which are attributable to multi-phase agricultural and settlement activity covering various phases potentially from the Bronze Age through to the modern day. Some correspond to known features in the landscape, including the Andyke scheduled monument, the continuation of the Winchester to Cirencester Roman road, and to existing field boundaries, which provide an interconnected relationship between the archaeological activity and the contemporary. Some settlement activity is highlighted by the presence of penannular, ring, and rectangular features.

Several features associated with funerary activity have also been noted across the site. These mostly correspond to Bronze Age barrows and is consistent with the known background of the site.

Numerous pit features are evident across the site. Some of these correspond to known gravel and chalk extraction pits, noted on OS maps. However, many are either unmarked extraction pits or pertain to other archaeological activity such as storage or refuse pits.

Some areas of historical cultivation are noted on the site. These include areas of ridge and furrow and former field boundaries.

A wide variety of geological processes have been identified across the site. Characterised by subtle variation in the magnetic response, these are associated with colluvial activity, natural pitting, and probable alluvial gravels.

Multiple areas of increased magnetic response have been identified. These pertain to modern trackways and agricultural processes. However, the southern portion of the site has increased magnetic response due to the frequency of communication towers interfering with the sensors.

The remaining anomalies are thought to be modern. These include ploughing, drainage, and services.

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The fieldwork was undertaken by Jake Bishop, Callum Jervis, Pamela Warne, Filippo Carrozzo, Lydia Jones, Phoebe Baker, Joanne Instone-Brewer, Cameron Ray, Ffion Lister, and Jack Trueman. Brett Howard processed and interpreted the geophysical data, prepared illustrations, and wrote the report with the assistance of Phoebe Baker. The geophysical work was quality controlled and managed on behalf of Wessex Archaeology by Tom Richardson.



Andover Link Main, Hampshire

Detailed Gradiometer Survey Report

1 INTRODUCTION

1.1 Project background

1.1.1 Wessex Archaeology was commissioned by Southern Water Services Ltd. to carry out a geophysical survey along a linear route between Winchester (NGR 444978 129437) and Andover (NGR 437566 145489) (**Figure 1**). The survey forms part of an ongoing programme of archaeological works being undertaken in support of a planning application for a water main pipeline.

1.2 Scope of document

1.2.1 This report presents a brief description of the methodology followed by the detailed survey results and the archaeological interpretation of the geophysical data.

1.3 The scheme

1.3.1 The scheme runs on a linear route for 24 km from the Crab Wood Water Service Reservoir, Winchester in the south to the River Way Water Supply Works, Andover in the north. At its northernmost, the scheme is located 1 km east of the centre of Andover. In the south, the scheme is located 3 km west of the centre of Winchester.

1.3.2 The survey area comprises 235 ha of agricultural land, currently utilised as pasture, crop, and scrub.

1.3.3 The northern section of the route is bounded by the urban extent of Andover and agricultural land to the north-west. The site passes close to several villages, including Picket Twenty, Forton, Bransbury, Barton Stacey, parts of Winchester, and the village of Littleton to the east. The site is bounded in the south by agricultural land, a campsite, and stables.

1.3.4 The route traverses several roads, most notably the A303, Stockbridge Road (B3049), and A30. In its northern extremity, the proposed route runs alongside the A303 and Micheldever Road for 2.4 km. The route also crosses the River Test.

1.3.5 The topography of the area changes along the length of the route and the area has many hills. The highest point of the route is at 157 m above Ordnance Datum (aOD) towards the southern portion of the route. The lowest point of the route is 50 m aOD, near the crossing of Bansbury Lane.

1.4 Geology and soils

1.4.1 The underlying bedrock geology along the proposed pipeline is Chalk, namely a combination of the Newhaven Chalk Formation and the Seaford Chalk Formation.

1.4.2 The soils underlying the site are likely to consist of brown rendzinas of the 343h (Andover 2) association (SSEW SE Sheet 5 and Sheet 6 1983). Soils derived from such geological parent material have been shown to produce magnetic contrasts acceptable for the detection of archaeological remains through magnetometer survey.



2 ARCHAEOLOGICAL BACKGROUND

2.1 Introduction

2.1.1 A Historic Environment Desk Based Assessment (HEDBA; Wessex Archaeology 2022) was prepared by Wessex Archaeology prior to the commencement of geophysical survey for Andover Link Main. Whilst there are limited designated heritage assets within the pipeline corridor itself, numerous heritage assets have been identified within the broader study area, 500 m from the pipeline corridor. The following archaeological background is not exhaustive but is summarised from aspects of the HEDBA that are considered relevant to the interpretation of the geophysical survey data, as well as relevant publicly available online resources such as National Heritage List for England (NHLE), the Hampshire Historic Environment Record (HER), the Winchester Historic Environment Record (WHER), and the Archaeological Data Service (ADS). Each of the following sections highlight information for the specific time period from the north of the route to the south, before moving on to the next.

Palaeolithic

2.1.2 A significant number of Palaeolithic finds have been recorded along, and close to, the proposed pipeline route.

2.1.3 One tip of a Palaeolithic hand axe and two flakes were discovered in a field (*HP713592*) near the crossing of the A303 and B3048 and the River Test. An Acheulean hand axe was discovered during the construction of the modern A303, north of *HP724905*. Other finds nearby include a hand axe, hand axe tip, and two flakes. A further 13 hand axes, and a retouched flake have also been attributed to the Lower Palaeolithic. Four hand axes have also been reported from Andover.

2.1.4 A significant number of Palaeolithic finds have been identified downstream of the route. These include examples of Middle Palaeolithic Levallois material. Whilst outside the study area, these finds are considered significant for an understanding of the wider landscape.

2.1.5 No significant Upper Palaeolithic material has been found within the study area or surrounding landscape. Mesolithic activity is not seen in the study area, but some finds have been made in the surrounding landscape, including a blade core, lithic scatters, and two tranchet axe/ adzes from various locations.

Neolithic (4000 – 2200 BC)

2.1.6 Neolithic activity in the area is very well documented. This is usually characterised by the presence of funerary monuments or earthworks. The best example of these is the scheduled 'Long barrow 400 m south-east of Moody's Down Farm' (NHLE 1012515) west of *HP760279*, which has not been excavated and is listed as having considerable archaeological potential. A nearby Neolithic long barrow was destroyed for construction of the Moody Down Rifle Range (NGR 443568 138474) in 1940. This long barrow contained human remains.

2.1.7 Whilst funerary monuments are the most distinctive element of Neolithic activity within the area, other elements are represented. Several flint scatters have been identified, alongside rectilinear ditched enclosures, pit circles, and other earthworks visible as crop marks.

2.1.8 Some evidence of Neolithic occupation is visible at a multi-period site south-east of Andover, excavated in 1987. This site may have been a relatively significant centre for domestic activity owing to the large number of worked flint found at the site.



- 2.1.9 Later Neolithic monuments, such as henges and causewayed enclosures, are generally missing from the archaeological record in the region.
- 2.1.10 The scheduled long barrow 1 km south of Larkwhistle Farm (NHLE 1013200) is 60 m long by 20 m wide with a height of 2 – 2.5 m and is situated in *HP545953*, although outside of the survey area. The barrow has no evidence of formal excavation and is noted to have significant archaeological potential. The WHER also reports several ditches containing an urn and flint flakes at this site.
- 2.1.11 The scheduled bowl barrow 630 m NNE of Littleton House (NHLE 1020501), 40 m south of *HP545953* is thought to date to the Late Neolithic or Early Bronze Age. Whilst damaged by later excavation of a trench and modern ploughing, the current remains still measure 26 m east – west and 22 m north – south, with a height of 2 m.
- 2.1.12 Several other possible transitional Neolithic – Bronze Age forms of barrows have been identified in the HHER through aerial photography. A possible oval barrow measures 25 m by 22 m, in *HP615976*. Nearby, an oval enclosure, also possibly a barrow, measures 33 m by 24 m.
- Bronze Age (2200 – 700 BC)*
- 2.1.13 A diffused cultural change between the Late Neolithic and Early Bronze Age makes the exact point of transition difficult to detect. The presence of oval barrows across the area is thought to be representative of a transitional form of funerary monument from the Late Neolithic long barrows to Early Bronze age round barrows.
- 2.1.14 Multiple examples of cropmarks of Bronze age round and bowl barrows are visible across the area. A group of four round barrows seen in aerial photography are located within the proposed pipeline route, at NGR 439120 144545. There is also a cluster of seven round and bowl barrows situated near to Barton Stacey and the Moody Down Rifle Range, in close geographical association with the earlier Neolithic long barrows.
- 2.1.15 South of Andover, a pair of ring ditches are recorded near Ladies' Walk, with a further series of earthworks visible in cropmarks possibly associated with these ring ditches. An inhumation burial which contained a bronze dagger (now lost) is also recorded nearby, at Micheldever Road.
- 2.1.16 The Bronze Age scheduled monument of three round barrows 500 m WNW of Flowerdown House (NHLE 1012690) is located on the edge of the route at Littleton, 490 m east of *HP707555*. These barrows (one disk barrow and two bowl barrows) are thought to have once been part of a larger cemetery. The disk barrow, measuring 28 m across, is considered the best example of a disk barrow in Hampshire.
- 2.1.17 Some non-funerary activity belonging to the Neolithic and Bronze Ages is in and around the route. Just outside the route, Worth Down Ditch at Three Maids Hill has been designated as a scheduled monument (NHLE 1001907), 725 m east of *HP545953*. Geophysical survey and archaeological evaluation by Wessex Archaeology (Wessex Archaeology 2021) demonstrated that the present size of the ditch is reduced from its original size and may represent a cross-dyke in association with the nearby long barrow at Larkwhistle Farm. A round barrow with a central burial was also found in the geophysical survey.
- 2.1.18 Field systems dating to the prehistoric period generally have been identified by the National Mapping Project (NMP) throughout the southern study area. These hint at the varied ways in which prehistoric peoples may have used the landscape in this area.



Iron Age and Romano-British (700 BC – AD 43)

- 2.1.19 Numerous circular enclosures throughout the northern area containing internal features and external ditches have been identified, either as part of aerial photography or development projects, and interpreted as evidence of Iron Age settlement.
- 2.1.20 One of the largest Prehistoric features in the northern portion of the site is the scheduled monument known as the Andyke (NHLE 1015678), 180 m east of *HP411976*. This feature is a substantial earthwork measuring 530 m in length. Whilst linear earthworks like this have been noted from the Middle Bronze Age onwards, there is some suggestion that the earthworks may belong to an Iron Age promontory fort. The limited archaeological information associated with the site, however, means that it is difficult to fully interpret the site. At its closest point, the Andyke is 165 m from the proposed pipeline route.
- 2.1.21 Romano-British activity is relatively well represented in the northern portion of the pipeline route.
- 2.1.22 Several roadside settlements and farmsteads existed in and around what is now Andover. These include a minor crossroad settlement at East Anton, or '*Leucomagus*', a small rural settlement at Viking Way which produced regionally significant evidence of Late Iron Age/Early Roman settlement in the form of ditches, pits, and postholes, plus a crouched inhumation.
- 2.1.23 At the centre of what is now Andover, a Romano-British cemetery was discovered dated to AD 270 – 400. The HHER records additional instances of ritual and funerary activity including cremation burials and roadside inhumations on the peripheries of the modern town.
- 2.1.24 Within the pipeline corridor itself, at the A3093 Junction, the HHER records a possible Romano-British occupation site based upon the recovery of a scatter of Roman pottery. However, neither LiDAR nor NMP depict any corroborating features.
- 2.1.25 In the fields west of Barton Stacey lie the remains of a former Roman settlement visible on aerial photographs as cropmarks in a series of double ditched trackways, fragments of small rectilinear enclosures, and field boundaries.
- 2.1.26 The proposed pipeline passes close by the western outskirts of Winchester. The city undoubtedly had significant impact on the surrounding area. The first record of settlement at the city site comes from the Iron Age. An enclosed oppida was founded in approximately 150 BCE and located in what is now the centre of the modern city, at Oram's Arbour (2 km east of the proposed route). This is thought to have been inhabited by the British Belgae tribe. Excavations in 2004 uncovered burnt flint, a flake, daub, sherds of pot, and animal bones attributed to the period.
- 2.1.27 Nearby, at St Catherine's Hill on the south-eastern edge of the city, a contemporary hillfort was also established by the Belgae.
- 2.1.28 At Three Maids Hill, the prehistoric Worthy Down Ditch was repurposed during the Iron Age and Roman periods to form an Iron Age Settlement and related Iron Age and Romano-British field system.
- 2.1.29 With the arrival of the Romans in the area, the Iron Age oppida in Winchester developed into a Roman town, recorded as *Venta Belgarum*. The town grew to become the 5th largest Roman town in Britain and the capital of the surrounding area. Houses, shops, temples, public baths, and stone city walls were present. No accompanying military presence is recorded.



- 2.1.30 Within the study area, primary examples of Roman activity are Sarum Road 330 m south of *HP738761*, and the scheduled 'Romano-British farmstead and associated field system' on Teg Down, west of Winchester (NHLE 1008748).
- 2.1.31 The modern Sarum Road follows the path of the original Roman Road. This is noted on several early editions of Ordnance Survey (OS) maps for the area.
Anglo-Saxon and Medieval (AD 410 – 1500)
- 2.1.32 Findspots of Medieval glass have been found near the A303 at Andover.
- 2.1.33 The village of Barton Stacey was first documented in 903 AD and again in 1046 with a 'grant of land' by King Edward. Barton Stacey is recorded in the Domesday Book as *Bertun* or in the Old English, '*Beretun*'.
- 2.1.34 Medieval field systems have been identified by aerial photography and the NMP throughout the route.
- 2.1.35 The scheduled 'Deadman's Plack' (NHLE 1093409), 350 m north of *HP713669*, is dedicated to the memory of Earl Athelwold, who was supposedly murdered on the site by King Edgar in 963.
- 2.1.36 Although abandoned by the Romans after their withdrawal from Britain, the town of Winchester continued to be used into the Saxon and medieval periods. The Saxons gave the town the name *Venta Caester*, which was later corrupted to Winchester.
- 2.1.37 The village of Littleton was founded in the early Medieval period, recorded as *Littletone* in the Domesday book.
- 2.1.38 The proposed pipeline corridor abuts the eastern most border of the Grade II* Listed Park and Garden of Lainston House (NHLE 1000862). The original house was first built in 1335, although records of the manor of Lainston go back as far as the 10th century. The present house was built in 1683 and the formal gardens and parkland established between the 17th and 18th centuries. For much of the 19th century Lainston House was tenanted, although the period from 1825 to 1846 saw it occupied as a lunatic asylum.
Post medieval to modern (AD 1500 – present)
- 2.1.39 An Iron Bridge at Andover is dated to 1840 (NHLE 1235937).
- 2.1.40 Two gravel pits feature upon the 1st Edition OS mapping within the proposed route, south of Deadman's Plack Copse, adjacent to the A303.
- 2.1.41 The First and Second World Wars had a significant impact upon the area and the HHER records several instances of military activity along the proposed pipeline route. The archaeological record is characterised by the presence of pillboxes, former airfields and associated infrastructure, war memorials, military camps, and rifle ranges. Many of these features overtook areas which had been historically used as agricultural land. These include Moody's Down rifle range, which is still operational, as well as bomb craters near to Barton Stacey.
- 2.1.42 A First World War HM Explosives Factory was located at the B3048 Junction on the A303. The site is now occupied by a small industrial estate.
- 2.1.43 Despite these changes, many villages retained their original character. There are 30 Grade II listed buildings in Barton Stacey, 2 in Bransbury, and 3 in the outskirts of Andover. Many



of these buildings use traditional Hampshire materials which include flint, log, straw, or combed wheat reed thatch, timber frame, red or painted brick, clay, and later slate tiles.

- 2.1.44 In the 20th Century an infectious disease isolation hospital was constructed on the outskirts of Winchester, 50 m east of *HP738761*. This hospital was operational between 1909 – 1932 and is depicted on 4th edition OS maps.
- 2.1.45 This area saw significant use as military land during the late 19th and early 20th Century. A rifle range and military training buildings were constructed in 1880 on the site of what is now the Royal Winchester Golf Club. This is noted on 1st edition OS maps.
- 2.1.46 RAF Worthy Down (NHLE 1393762) lay just outside the Study Area to the east and was operational from the 1940s onwards. The WHER records a group of assets which lie just within the Study Area, west of South Wonston which make up the airfield's ground defences including a Quetta, pillboxes, and a pair of 'cubes' or 'dragon's teeth'.

2.2 Recent investigations in the area

Geophysical survey

- 2.2.1 The HHER records four instances of geophysical survey within the study area, all in or immediately surrounding Andover. The WHER records one instance of geophysical survey at Littleton Manor.
- 2.2.2 In 2021, Archaeological Surveys Ltd carried out a magnetometry survey followed by an archaeological evaluation by Wessex Archaeology (Archaeological Surveys Ltd, 2020; Three Maids Solar Farm, Worthy Down, Hampshire, Wessex Archaeology, 2021) upon a 42 ha parcel of land located at Three Maids Hill, close to South Wonston, and adjacent to the proposed pipeline corridor. This helped archaeologists to reinterpret the scheduled monument at Worthy Down Ditch as a Neolithic earthwork, rather than a Bronze Age Wessex Linear as it had been previously understood.

Archaeological Investigations

- 2.2.3 The HEDBA notes 14 archaeological evaluations and 10 instances of watching brief from the HHER. These exist in both urban and rural settings but as predominately development led. One excavation and three watching briefs are noted from the WHER.
- 2.2.4 Evaluation by Wessex Archaeology (2021) at Three Maids Hill revealed the presence of a round barrow with a central burial containing Late Neolithic Grooved Ware pottery.

3 METHODOLOGY

3.1 Introduction

- 3.1.1 The geophysical survey was undertaken by Wessex Archaeology's in-house geophysics team between 10 November 2022 and 04 May 2023. Field conditions were variable throughout the survey, though mostly dry. An overall coverage of 200.55 ha was achieved, with land access, ground conditions, and crop being attributed for loss in survey area.
- 3.1.2 The methods and standards employed throughout the geophysical survey conform to that set out in the Written Scheme of Investigation (WSI) (Wessex Archaeology 2018), as well as to current best practice, and guidance outlined by the Chartered Institute for Archaeologists' (CIfA 2014) and European Archaeologiae Consilium (Schmidt *et al.* 2015).



3.2 Aims and objectives

3.2.1 The aims of the survey comprise the following:

- To determine, as far as is reasonably possible, the nature of the detectable archaeological resource within a specified area using appropriate methods and practices; and
- To inform either the scope and nature of any further archaeological work that may be required; or the formation of a mitigation strategy (to offset the impact of the development on the archaeological resource); or a management strategy.

3.2.2 In order to achieve the above aims, the objectives of the geophysical survey are:

- To conduct a geophysical survey covering as much of the specified area as possible, allowing for on-site obstructions;
- To clarify the presence/absence of anomalies of archaeological potential; and
- Where possible, to determine the general nature of any anomalies of archaeological potential.

3.3 Fieldwork methodology

3.3.1 The cart-based gradiometer system used a Carlson RTK GNSS instrument, which receives corrections from a network of reference stations operated by the Ordnance Survey (OS) and Leica Geosystems. Such instruments allow positions to be determined with a precision of 0.02 m in real-time and therefore exceeds European Archaeologiae Consilium recommendations (Schmidt *et al.* 2015).

3.3.2 The detailed gradiometer survey was undertaken using four SenSys FGM650/3 magnetic gradiometers spaced at 1 m intervals and mounted on a non-magnetic cart manually pushed across the site by the surveyors. Data were collected with an effective sensitivity of $\pm 8 \mu\text{T}$ over $\pm 1000 \text{ nT}$ range at a rate of 100 Hz, producing intervals of 0.02 m along transects spaced 4 m apart.

3.4 Data processing

3.4.1 Data from the survey were subjected to minimal correction processes. These comprise a 'Destripe' function ($\pm 5 \text{ nT}$ thresholds), applied to correct for any variation between the sensors, and an interpolation used to grid the data and discard overlaps where transects have been collected too close together.

3.4.2 Further details of the geophysical and survey equipment, methods and processing are described in **Appendix 1**.

4 GEOPHYSICAL SURVEY RESULTS AND INTERPRETATION

4.1 Introduction

4.1.1 Results are presented as a series of greyscale plots, and archaeological interpretations. The overview figures are presented at a scale of 1:15000 (**Fig. 2 – 11**). The detailed figures are presented at a scale of 1:2000 (**Fig. 12 – 89**). The data are displayed at -2 nT (white) to +3 nT (black) for the greyscale image.

4.1.2 The interpretation of the datasets highlights the presence of potential archaeological anomalies, ferrous responses, burnt or fired objects, and magnetic trends (odd figure



numbers). Full definitions of the interpretation terms used in this report are provided in **Appendix 2**.

- 4.1.3 Numerous ferrous anomalies are visible throughout the dataset. These are presumed to be modern in provenance and are not referred to, unless considered relevant to the archaeological interpretation.
- 4.1.4 It should be noted that small, weakly magnetised features may produce responses that are below the detection threshold of magnetometers. It may therefore be the case that more archaeological features may be present than have been identified through geophysical survey.
- 4.1.5 Gradiometer survey may not detect all services present on site. This report and accompanying illustrations should not be used as the sole source for service locations and appropriate equipment (e.g., CAT and Genny) should be used to confirm the location of buried services before any trenches are opened on site.

4.2 Gradiometer survey results and interpretation

- 4.2.1 The interpretation section of this report has been broken into client supplied land parcel numbers and will work from the north of the route to the south.

HP455658 (Fig. 12 – 13)

- 4.2.2 A strong positive linear anomaly is evident in the north-western portion of the area at **4100**. The anomaly is 32 m long by 2 m wide, on a north-east to south-west orientation. This anomaly is indicative of a ditch feature and may form an archaeological boundary. However, this feature may also be associated with later agricultural activity, such as a drainage ditch.
- 4.2.3 A positive curvilinear anomaly is present towards the south of the area at **4101**. The anomaly is 13 m long by 2 m wide. This anomaly is indicative of a ditch feature, but interpretation is limited by the survey extent. It is possible that this anomaly forms part of an archaeological boundary feature extending beyond the survey extent, however it could equally relate to modern agricultural activity. The anomaly at **4101** is accompanied by numerous discrete positive anomalies at **4102**. These anomalies are 1 – 2 m in diameter and indicate pit features, possibly relating to refuse, storage, or extraction pits. Equally, however, these anomalies could be natural variation in local geology.
- 4.2.4 Further discrete positive anomalies are evident towards the centre of the area at **4103**. These anomalies range in size between 2 m and 5 m in diameter and may also pertain to archaeological pit features, such as refuse, storage, or extraction activity. However, again, these anomalies may be further natural variation in the geology.
- 4.2.5 A strong dipolar linear anomaly is present in the northern portion of the area at **4104** on a broadly north – south orientation. This anomaly is indicative of a modern service.

HP298458 (Fig. 14 – 15)

- 4.2.6 A positive rectilinear anomaly is evident in the eastern portion of the area at **4200**. The anomaly is 12 m long, 2 m wide, with two 5 m returns to the west at the southern and northern extent. This anomaly is indicative of a ditch feature and may form part of an archaeological enclosure. However, the possibility that the anomaly continues beyond the survey area makes more confident interpretation difficult.
- 4.2.7 A weak positive linear anomaly is present 50 m south-east of **4200**, at **4201**. The anomaly is 13 m long east – west and 2 m wide. The anomaly is suggestive of a ditch, likely forming a former boundary. A weak positive linear anomaly further to the east may be an extension of the feature, however this is much weaker and has been marked as a trend. It is possible

that this feature is associated with later agricultural activity such as a drainage ditch or deeper ploughing.

- 4.2.8 Two positive and negative amorphous anomalies are present in the northern portion of the area at **4202** and **4203**. The anomaly at **4202** is 19 m in diameter, while the anomaly at **4203** is 6 m in diameter. Both anomalies are positive with a negative surround. These are suggestive of archaeological extraction activity or former ponds which are evident on historical maps across the wider landscape.
- 4.2.9 An amorphous area of increased magnetic response has been identified at **4204**. The anomaly covers an area 63 m east – west by 15 m north – south. This anomaly corresponds to the position of a former pond, as noted on the OS Six Inch map of 1888 – 1913, accompanied by landscaping or disturbance associated with a field entrance.
- 4.2.10 Two strong dipolar linear anomalies are present in the southern portion of the area, at **4205** and **4206**. The anomaly at **4205** is 55 m long and the anomaly at **4206** is 242 m long. These anomalies are indicative of modern services.
- 4.2.11 Areas of weak magnetic variation are evident across the area. These are likely associated with superficial geology, specifically colluvial activity due to the being a hillside.

HP200014 (Fig. 16 – 19)

- 4.2.12 Parallel positive linear anomalies, with associated negative responses, are evident in the centre of the area at **4300** and **4301 (Figure 19)**. The anomaly at **4300** is 120 m long south-east to north-west and 6 m wide; the anomaly at **4301** is 57 m long south-east to north-west and 2 m wide, with a possible continuation further south-west. These features correspond with the known route of the Roman road between Winchester and Cirencester, likely representing the roadside ditches. The road is marked on the OS Six Inch map of 1888 – 1913.
- 4.2.13 A positive linear anomaly is noted perpendicular to the Roman road at **4302**. The anomaly is 40 m long by 2 m wide. The anomaly is indicative of a ditch, likely forming a boundary feature associated with the Roman road. Alternatively, it could represent a later ditch which respected the existing Roman road.
- 4.2.14 Irregular parallel positive linear anomalies are evident south-east of **4300**, at **4303 (Figure 19)**. The anomalies cover an area 114 m north-east to south-west, 3 m wide, and are separated by 9 m. These anomalies indicate further delineation of the landscape respecting the existing Roman road as a boundary. These features closely align with the existing field boundary immediately to the south-west and may correspond to a later field boundary not on available mapping.
- 4.2.15 An area of weak positive perpendicular linear anomalies is present in the centre of the area at **4304 (Figure 17)**. The area covers 64 m by 25 m with individual anomalies 2 m wide. These anomalies may indicate archaeological ditch features associated with settlement or agricultural activity. However, these features have a weak magnetic response and may instead pertain to agricultural activity, such as ploughing or drainage.
- 4.2.16 A weak positive ring anomaly is present in the centre of the area at **4305**. The anomaly is 13 m in diameter and has a break in the northern and southern portion. This anomaly may indicate an archaeological ditch feature associated with a roundhouse or an enclosure. However, the weak response suggests it may pertain to geological variation or modern agricultural activity.

- 4.2.17 Multiple weak positive linear anomalies, similar to those at **4304**, have been identified across the east of the area at **4306** to **4312** (**Fig. 17** and **19**). The anomalies range in length but the largest is at **4312**, measuring 83 m north-east to south-west, 36 m south-east to north-west and 3 m – 7 m wide. These anomalies indicate ditch features, possibly associated with land delineation related to the Roman road. However, as with **4304**, these anomalies are very weak and may instead be related to modern agricultural ploughing or variation in local geology.
- 4.2.18 In the western portion of the area, a complex arrangement of strong positive linear anomalies are present, at **4313 A – F** (**Figure 17**). The anomalies at **A – D** form three sides of a large rectilinear anomaly covering an area 100 m north – south by 95 m east – west. Internal segregation of the larger anomaly, by smaller intersecting linear anomalies is noted at **E** and **F**. A further positive rectilinear anomaly is noted immediately north of **A**, at **4314**. This anomaly is 16 m north – south by 20 m east – west. These anomalies indicate the presence of archaeological settlement activity, although it is not possible to offer a confident date from the geophysical data alone.
- 4.2.19 A spread of discrete positive anomalies (**4315**) is noted within the probable area of settlement. The anomalies cover an area 52 m south-east to north-west and 41 m north-east to south-west, with individual anomalies ranging in diameter from 2 m – 6 m. These anomalies indicate pit features likely associated with the settlement (**4313**), such as for refuse or extraction activity.
- 4.2.20 An area of increased magnetic response has been identified within the south of the area of settlement (**4313**) at **4316**. The anomaly is 46 m by 36 m in area. The anomaly may pertain to disturbed ground related to archaeological activity, such as further extraction activity or structural remains. However, this disturbance is more likely to be a modern agricultural spread.
- 4.2.21 Further, weaker, positive linear anomalies have been identified in and around the immediate vicinity of **4313**, at **4317 – 4320**. The largest of the anomalies, at **4317**, covers an area of 24 m by 7 m and comprises two intersecting linear anomalies. The anomalies may pertain to archaeological ditch features, such as boundaries for agriculture or settlement activity, and may be a continuation of the settlement features discussed above.
- 4.2.22 There is a strong positive linear anomaly in the northern portion of the area at **4321**. The anomaly is 40 m long and 2 m wide on a north – south alignment. This anomaly indicates a ditch feature, which may form an archaeological boundary feature. While it may be associated with the activity at **4313**, its distance suggests it pertains to a different phase of activity.
- 4.2.23 Numerous discrete positive anomalies are present sporadically across the site but have been highlighted at **4322** (**Figure 17**). These anomalies are 1 m – 2 m in diameter and may pertain to archaeological pit activity, such as refuse or extraction pits. This activity may represent wider archaeological pit features such as that at **4316**. Equally, however, these features may be attributable to variation in local geology or modern interventions.
- 4.2.24 An amorphous area of weakly positive variation is evident in the east of the area at **4323** (**Figure 19**). The anomaly is 60 m by 24 m in area and likely corresponds with variation in the local geology.
- 4.2.25 Strong dipolar linear anomalies are evident at **4324 – 4326** (**Fig. 17** and **19**). These anomalies have been interpreted as modern services.



4.2.26 Weak positive linear anomalies are present sporadically across the east of the area at **4327** and **4328 (Figure 19)**. These have been interpreted as modern ploughing.

HP405419 (Fig. 20 – 21)

4.2.27 A positive linear anomaly is present in the west of the area at **4400 (Figure 21)**. The anomaly is 70 m long south-east to north-west by 3 m wide. This anomaly is indicative of a ditch features and may be associated with possible boundaries to the west in *HP200014*. However, the north-western end coincides with a modern field entrance and the anomaly may therefore relate to modern agricultural activity.

4.2.28 Numerous weak positive linear and discrete anomalies are present in the west of the area at **4401 (Figure 21)**. The anomalies cover an area of 150 m east – west by 82 m north – south. These anomalies may pertain to archaeological activity, such as boundary ditches and pits associated with refuse or extraction activity. However, the generally weak nature of the anomalies and lack of discernible pattern suggests they could equally relate to modern agricultural activity and natural geological variation.

4.2.29 Amorphous areas of positive and negative magnetic variation are noted across the east of the area at **4402 – 4405 (Figure 21)**. The largest of these anomalies is at **4405** and is 72 m east – west by 16 m north – south. These anomalies have been interpreted as variation in the local geology due to their lack of shape or pattern.

4.2.30 Numerous weak positive linear anomalies are present across the area. These anomalies are on a south-east to north-west alignment and have been interpreted as modern ploughing.

4.2.31 Broad weak positive anomalies are present at **4406 – 4010 (Figure 21)**. These anomalies are on a north-east to south-west alignment and have been interpreted as modern drainage.

HP322717 (Fig. 22 – 23)

4.2.32 Amorphous positive and negative variation of the magnetic response has been identified at **4500** and **4501 (Figure 23)**. The largest of these anomalies is 20 m by 9 m and all have been interpreted as natural variation in the local geology.

4.2.33 Numerous weak positive linear anomalies have been identified at **4502 (Figure 23)**. These anomalies have been interpreted as modern ploughing.

HP713669 (Fig. 22 – 27)

4.2.34 An arrangement of strong positive perpendicular linear anomalies is clear in the west of the area at **4600 (Figure 23)**. The anomalies cover an area of 170 m south-east to north-west by 92 m north-east to south-west, with individual anomalies 2 m to 5 m wide. A similar arrangement of weaker positive perpendicular anomalies has been identified to the west at **4601**. These anomalies cover an area 65 m east – west by 40 m north – south. This arrangement of anomalies indicate ditch features, likely associated with archaeological settlement or agricultural activity. The separation of **4600** and **4601** is suggestive of the central thoroughfare, determining an eastern and western extent of a singular area of activity. The date of these features is unclear from the geophysical data.

4.2.35 Extending east from **4600**, numerous weak positive linear anomalies have been identified at **4602 to 4606 (Figure 23)**. The anomalies cover an area of 164 m by 102 m and are 2 m – 3 m wide. Whilst the anomaly at **4602** is broadly rectilinear in character, the rest are linear anomalies. These have been interpreted as possible archaeological ditch activity, likely associated with enclosures. While no definite relationship can be determined from the

geophysical data alone, it is likely that the anomalies are associated with the activity at **4600**.

- 4.2.36 A weak positive rectilinear anomaly (**4607**), and a small positive semi-circular anomaly (**4608**) have been identified south of **4600**. The anomaly at **4607** is 35 m by 32 m and is 2 m – 3 m wide. The anomaly at **4608** has an 8 m diameter and is 2 m wide. These may relate to further archaeological ditch features associated with boundary ditches, or, in the case of **4608**, a partial ring ditch suggestive of settlement or funerary practices. These features are very weak and may instead be attributable to natural variation in local geology or modern agricultural disturbance.
- 4.2.37 Weak positive linear and curvilinear anomalies have been identified in the north-east of the area at **4609 (Figure 25)**. The anomalies cover an area 75 m south-east to north-west by 44 m north-east to south-west, with widths between 2 m – 3 m. These anomalies have been interpreted as possible archaeological ditch features, associated with agricultural boundary ditches. The weak magnetic response however may attribute these features to an alternative cause, such as variation in the local geology or modern agricultural disturbance.
- 4.2.38 An area of increased magnetic response, surrounded by further discrete dipolar anomalies, is present in the north-east of the area at **4610 (Figure 25)**. The anomaly is 20 m in diameter and corresponds to the position of a building and pond on the OS Six Inch map from 1888 – 1913. These features are likely the demolition material and back fill of the pond.
- 4.2.39 Numerous discrete areas of increased magnetic response are present across the area, at **4611 – 4613 (Figure 25)**. The anomalies are 18 m – 20 m in diameter. The anomaly at **4611** corresponds to an old chalk pit on the OS Six Inch map from 1888 – 1913. It may be that **4612** and **4613** are further chalk or gravel pits, not noted on historical maps. However, these anomalies may also be attributable to natural pits in the local geology.
- 4.2.40 Large areas of magnetic variation are noted across the area at **4614 – 4616 (Fig. 23 to 27)**. These have been interpreted as variation in the local geology, in this case likely associated with colluvial processes.
- 4.2.41 A strong linear dipolar anomaly is present in the south-east of the area at **4617 (Fig. 25 and 27)**. The anomaly is 106 m long and 5 m wide on a south-east to north-west orientation. This has been interpreted as a modern service; however, it is possible it may be part of a trackway noted on the OS Six Inch map from 1888 – 1913.

HP713592 (Fig. 26 – 33)

- 4.2.42 Strong positive linear anomalies are present in the north of the area at **4700** and **4701 (Figure 33)**. The anomaly at **4700** is 158 m long and between 2 m – 4 m wide; the anomaly at **4701** is 54 m long and 2 m – 4 m wide. Further weaker anomalies are present at **4702** and are contained within **4700**. They cover an area of 33 m by 33 m, with widths of 2 m – 4 m. These anomalies have been interpreted as archaeological ditch features, most likely forming a late prehistoric settlement enclosure. The western boundary is cut by the former Hurstbourne to Fullerton railway. The features at **4702** indicate internal archaeological activity, such as ditches associated with settlement.
- 4.2.43 Areas of weak positive linear anomalies are present to the south of the area of settlement at **4703** and **4704 (Fig. 31 – 33)**. The anomalies at **4703** cover an area of 30 m by 27 m and the anomalies at **4704** cover an area 50 m by 15 m. These anomalies have been interpreted as possible archaeological ditch features, likely associated with the settlement at **4700 - 4701**. However, given the weak magnetic response, it is possible that these



features are instead associated with natural variation in local geology or modern agricultural disturbance.

- 4.2.44 A weak positive linear anomaly is present in the west of the area at **4705 (Fig. 27 – 29)**. The anomaly is 56 m north-east to south-west and 3 m wide. This anomaly may pertain to an archaeological ditch feature, such as a boundary. However, the relative isolation of the anomaly makes more confident interpretation difficult. The anomaly is on a similar alignment to some geological features in the area, meaning that this may be associated with further variation in local geology, or modern agricultural activity.
- 4.2.45 A weak positive linear anomaly is present in the south-east of the area at **4706 (Figure 31)**. The anomaly is 68 m long east – west and 2 m wide. This anomaly may pertain to an archaeological ditch feature, such as an agricultural boundary. However, as with **4705**, the relative isolation of the anomaly makes more confident interpretation difficult. The anomaly could equally relate to natural variation or modern agricultural activity.
- 4.2.46 Numerous areas of increased magnetic response are located across the area at **4707 to 4711**. The largest of these anomalies is **4709**, which is 32 m in diameter. The anomaly at **4707** corresponds to a former chalk pit noted on the OS Six Inch map from 1888 – 1913. The anomalies at **4708** and **4709** correspond with areas of tree cover in the OS 1: 10, 560 Air Photos, 1944 – 1950, which may have hidden further evidence for former extraction activity. Although **4710** and **4711** are not marked on available maps or aerial photography, it is possible these also correspond to former extraction activity.
- 4.2.47 A large area of increased magnetic response is evident in the south of the site at **4712 (Figure 31)**. The anomaly is 83 m south-east to north-west and 60 m north-east to south-west. The anomaly corresponds to modern disturbance created by the demolition of two buildings named ‘Cottage End’ and ‘George Inn’, noted on the OS Six Inch map from 1888 – 1913, and the subsequent construction of the current service station site.
- 4.2.48 Broad swathes of magnetic variation have been identified across the site at **4713 – 4721**. These anomalies have been interpreted as variation in the local geology, likely from colluvial activity.
- 4.2.49 A linear area of increased magnetic response is noted at **4722 (Figure 33)**. The anomaly is 317 m long south-east to north-west and 10 m wide. This anomaly has been interpreted as a modern trackway.
- 4.2.50 Several strong dipolar linear anomalies have been identified across the eastern portion of the site at **4723 – 4729 (Figure 33)**. These anomalies have been interpreted as modern services.
- HP713507 (Fig. 30 – 31)*
- 4.2.51 A linear dipolar area of increased magnetic response has been identified bisecting the area at **4800**. The anomaly is 50 m long south-east to north-west by 5 m wide and anomaly corresponds to a modern track.
- 4.2.52 A swathe of variation in the magnetic response is noted at **4801**. This anomaly is 28 m north-east to south-west by 14 m at its widest extent. This anomaly, and similar smaller areas to its north, have been interpreted as variation in the local geology.



- 4.2.53 A strong dipolar linear anomaly is evident at **4803**. The anomaly is 73 m north-east to south-west. This anomaly has been interpreted as a modern service, likely a continuation of that seen in the land parcels to the north.

HP724905 (Fig. 34 – 35)

- 4.2.54 A weak positive linear anomaly is present bisecting the area at **4900**. The anomaly is 236 m east-west and 3 m wide. This anomaly indicates an archaeological ditch feature, such as a field boundary. However, this feature may also be a land drain or a modern footpath across the area.

- 4.2.55 The entire area is covered in weak variation of the magnetic response. This has been attributed to variation in local geology, most likely gravels given the location of a former gravel pit on the OS Six Inch map from 1888 – 1913.

- 4.2.56 A strong dipolar linear anomaly is present at **4901**. This has been interpreted as a modern service.

HP411976 (Fig. 36 – 39)

- 4.2.57 A large weak positive and negative linear anomaly is present in the east of the area at **5000** (Fig. 37 and 39). The anomaly is 100 m long north-east to south-west and 37 m wide. This anomaly is indicative of a large ditch and may be the western return of 'The Andyke' (NHLE: 1015678). The Andyke is a scheduled monument 320 m east of **5000** and is believed to be part of an Iron Age promontory fort defence system. The feature at **5000** can be seen in satellite imagery as crop marks, is present in LiDAR, and would continue north-east to intersect the known extent of the Andyke.

- 4.2.58 Numerous weak positive linear anomalies have been identified across the east of the area at **5001** to **5015** (Fig. 37 and 39). The anomalies cover an area of 200 m by 220 m in total. The anomalies range between 2 m – 10 m wide and have been interpreted as a series of possible archaeological ditch features. The linear anomalies at **5001** – **5012** lie within the proposed boundary of the Andyke monument and may correspond to boundary or settlement features. The anomaly at **5001** may also be a former field boundary, not present on mapping, due to the intersection with a known former field boundary. However, all of the anomalies range in magnetic intensity and may instead be attributable to variation in local geology or modern agricultural disturbance.

- 4.2.59 Further positive and negative linear anomalies are present in the eastern portion of the area, at **5016** – **5018** (Figure 39). The anomaly at **5016** is the strongest of the anomalies and covers an area 49 m by 20 m. The anomaly at **5017** is a negative anomaly but may form a continuation of **5016** and is 28 m long with a 7 m long return to the north at the western end. The anomaly at **5018** is 18 m long, with all anomalies 2 m wide. These anomalies lie immediately adjacent to the east of 'The Andyke' and may infer further boundary or settlement features. The northern linear anomaly at **5016** is on the same alignment as a former field boundary to the north of the survey area, noted on the OS Six Inch map from 1888 – 1913. This infers a contemporaneous relationship between the two but further investigation would be required. The anomalies, however, range in magnetic intensity and may instead be attributable to variation in the local geology or later agricultural activity, such as ploughing.

- 4.2.60 An area of positive and negative magnetic variation is evident in the east of the area at **5019** (Figure 39). The anomaly is 54 m north-east to south-west by 37 m south-east to north-west. The anomaly is indicative of archaeological extraction activity, possibly related to the



Andyke or potential settlement activity in the immediate vicinity. However, this could equally relate to post-medieval extraction which is recorded in the surrounding area.

- 4.2.61 In the western portion of the area, a strong positive linear anomaly is present at **5020 (Figure 37)**. The anomaly is 30 m long and 6 m wide. The anomaly likely indicates an archaeological ditch feature, possibly associated with water management of the river immediately west.
- 4.2.62 Immediately to the east of **5020** are four positive discrete anomalies at **5021 (Figure 37)**. These are 2 m – 3 m in diameter, and indicate pit features, such as refuse or extraction pits. These may also be attributable to a structure, though no further information is possible from the geophysical data. There is also the possibility that these pit features may be a product of the natural variation in local geology associated with the adjacent river.
- 4.2.63 A weak positive linear anomaly is present in the west of the area at **5022 (Fig. 37 and 39)**. The anomaly is 46 m long north – south and 4 m wide. The anomaly is indicative of a ditch feature, such as a boundary for agricultural delineation. However, it may equally be attributable to modern agricultural practices or a ditch associated with the adjacent lane.
- 4.2.64 Numerous discrete positive anomalies are present across the western portion of the area at **5023 (Figure 37)**. These are 1 m – 2 m in diameter and may correspond to archaeological pit features, such as refuse or extraction pits. Equally, however, these features may be associated with variation in the local geology.
- 4.2.65 A weak positive linear anomaly is present in the south-east of the area at **5024 (Figure 39)**. The anomaly is 43 m long east – west and 5 m wide. The anomaly has been interpreted as variation in the local geology, however it may correspond to a former field boundary, not noted on maps.
- 4.2.66 Positive linear anomalies are present at **5025** and **5026 (Fig. 37 and 39)**. The anomaly at **5025** is 360 m long from south-east to north-west with a projecting spur towards the north-east which is 66 m long. The anomaly is 3 m – 4 m wide. The anomaly at **5026** is 89 m long north – south and 5 m wide. These anomalies have been interpreted as former field boundaries. Elements of **5025** are visible on the OS Six Inch map from 1888 – 1913, whereas the rest and **5026** intersect with known field boundaries or align with existing boundaries on OS maps or satellite imagery.
- 4.2.67 Numerous weak positive linear anomalies are noted across the area at **5027 – 5029 (Fig. 37 and 39)**. These anomalies have been interpreted as modern ploughing.
- 4.2.68 Increased magnetic response and areas of ferrous have been noted across the site. These are too sporadic and without pattern to interpret from the geophysical data alone.
- HP722404 (Fig. 38 – 39)*
- 4.2.69 A group of weak positive linear anomalies is present at **5100**. These anomalies are aligned north – south and have been interpreted as modern ploughing.
- 4.2.70 Increased magnetic response and areas of ferrous have been noted across the site. These are too sporadic and without pattern to interpret from the geophysical data alone.
- HP591046 (Fig. 40 – 49)*
- 4.2.71 A strong positive ring anomaly is present at **5200 (Fig. 43 – 45)**. The anomaly is 27 m in diameter and 5 m wide. Internal to the north-western edge of the ring is a discrete positive



anomaly 4 m long and 2 m – 3 m wide. This anomaly is indicative of a round barrow, likely dating to the Bronze Age, with an associated pit or burial. There is the possibility that an opening is present in the north of the ring.

- 4.2.72 Another strong positive ring anomaly is present south-west of **5200**, at **5201 (Figure 45)**. The anomaly is 32 m in diameter and has an anomaly width of 3 m wide. The anomaly is bisected east – west by a contemporary field boundary. This likely relates to a Bronze Age round barrow. There are no noted internal features in the geophysical data.
- 4.2.73 A smaller positive ring anomaly is present to the east of **5201**, at **5202 (Figure 45)**. The anomaly is 8 m – 9 m in diameter and 1 m wide. This anomaly may be a smaller version of the funerary monuments noted at **5200** and **5201**, however, it is possible that this anomaly is associated with archaeological settlement activity in the form of an Iron Age roundhouse.
- 4.2.74 A series of strong positive linear anomalies are present across the site, at **5203 – 5211**. Further weaker positive linear anomalies are also present, across the site at **5212 – 5272**. The anomalies range in length and width but adhere to a similar orientation with one another. These anomalies have been interpreted as archaeological ditch features associated with a former field system. Elements of the features at **5203** may infer a different, possibly earlier, phase of activity to the rest of the features due to a slightly different orientation and more curved elements. Also, the orientation of **5211** and **5248** suggest an alternative phase of activity, most likely later as **5211** respects the orientation of the remainder of the linear features. The orientation of most of the ditches broadly align north – south with the current route of ‘The Street’ and ‘Gravel Lane’, running through Barton Stacey to the east. This relationship may infer a medieval date as the earliest phase, as it corresponds to said alignment of the village high street.
- 4.2.75 A strong positive anomaly is present in the south of the area at **5273 (Figure 47)**. The anomaly is 13 m long and 2 m wide. The anomaly is indicative of a ditch feature. While likely archaeological in origin, interpretation is limited by the survey extent.
- 4.2.76 Two large positive parallel anomalies are present at **5274** and **5275 (Fig. 47 – 49)**. The anomaly at **5274** is 78 m north-east to south-west and 5 m wide, while the anomaly at **5275** is 90 m long north-east to south-west and 6 m wide. These anomalies have been interpreted as two sides of a larger rectilinear enclosure, which may contain a weaker positive square anomaly (**5276**), which measures 11 m by 11 m, and has a break in the eastern side. The purpose of these enclosures is unclear, but the regular rectilinear forms suggest a Roman date.
- 4.2.77 A strong positive linear anomaly has been identified in the south of the area at **5277 (Figure 49)**. The anomaly is 70 m long north-east to south-west and 4 m wide. The anomaly is indicative of a ditch and likely relates to a boundary, possibly associated with the enclosure to the east at **5274** and **5275**.
- 4.2.78 A large positive linear anomaly is present in the south of the area at **5278 (Figure 47)**. The anomaly is 285 m long on a south-east to north-west orientation, 15 m wide at its widest point, and splits into two smaller anomalies continuing south from the centre. This anomaly has been interpreted as a large ditch feature, likely associated with the land delineation activity discussed.
- 4.2.79 A pair of strong parallel linear anomalies have been identified at **5279** and **5280 (Fig. 47 – 49)**. The anomalies are on a north – south orientation. The eastern anomaly is 120 m long and 2 m wide; the western anomaly is 195 m long, 2 m wide, and has a westerly spur 37 m



long perpendicular to the other two. These anomalies are evidence of archaeological ditch features. While they likely form part of the wider former field system, the two anomalies may form a drove way aligned parallel to the current route of The Street.

- 4.2.80 Several large dipolar anomalies are present across the area at **5281 – 5288**. The anomalies are 10 m – 30 m in diameter. These anomalies have been interpreted as archaeological extraction activity, most likely for chalk or gravel. However, these features may be associated with geomorphological activity such as alluvial processes or natural pitting.
- 4.2.81 Numerous areas of magnetic variance are noted across the area, at **5289 – 5294**. These anomalies have been interpreted as variation in local geology, likely associated with colluvial processes.
- 4.2.82 Two areas of increased magnetic response have been identified in the north of the area at **5295 and 5296 (Figure 41)**. These anomalies have been interpreted as a modern trackway.
- 4.2.83 Weak positive linear anomalies have been noted at **5297 and 5298 (Fig. 43 – 45)**. These anomalies have been interpreted as possible medieval or post-medieval ridge and furrow cultivation.
- 4.2.84 Two strong dipolar linear anomalies are noted at **5299 (Figure 43)**. These anomalies have been interpreted as two sections of a modern service.

HP760304 (Fig. 48 – 55)

- 4.2.85 A strong positive ring anomaly is present at **5300 (Figure 53)**. The anomaly is 11 m in diameter, with a width of 1 m, and has a break in the north-west 2 m wide. Central to this is a discrete positive anomaly 1 m in diameter. This anomaly may be a small funerary monument, such as a Bronze Age round barrow, which has been ploughed flat through agricultural activity. It is also possible that this feature instead relates to an Iron Age roundhouse, with the central feature indicative of a pit or a hearth, although there is little other evidence of associated settlement in the surrounding data.
- 4.2.86 Strong positive linear anomalies are present at **5301 (Figure 53)**. The anomalies at **5301** cover an area of 195 m by 83 m, with an anomaly width of 2 m. These anomalies have been interpreted as archaeological ditch features associated with a former field system. The features appear to align perfectly with a field system 800 m to the south-east, inferring an earlier phase of activity from the current field system.
- 4.2.87 Strong positive linear anomalies are present at **5302 (Figure 53)**. The is 42 m long and has an anomaly width of 3 m. This is an archaeological ditch feature and may be associated with parts of the wider agricultural landscape. However, it may infer a ditch feature from an alternative cause, such as an agricultural ditch.
- 4.2.88 Two further, weaker, positive linear anomalies are also present on the site, at **5303 and 5304 (Figure 49)**. The anomaly at **5303** is 105 m long and 2 m wide, while the anomaly at **5304** is 48 m long and 2 m wide. These anomalies indicate ditch features, likely associated with former boundary features. The anomaly at **5303** may be an extension of a former field boundary to the the north-east. However, they may instead by related to later agricultural ploughing or drainage.
- 4.2.89 A large dipolar anomaly is evident at **5305 (Fig. 53 – 55)**. The anomaly is 25 m in diameter. It is likely that this relates to a chalk extraction pit, as one is noted to the north-east on

historical mapping. However, this feature may be associated with geomorphological activity such as alluvial processes or natural pitting.

- 4.2.90 Numerous discrete positive anomalies have been identified across the site, with examples at **5306** and **5307**. The anomalies range in size between 1 – 3 m. These have been interpreted as possible archaeological pits, such as extraction or refuse pits. However, it is equally possible that these pits are associated with natural variation in the local geology.
- 4.2.91 A series of weak positive parallel linear anomalies are present across the site, with examples at **5308** and **5309** (**Fig. 53** and **55**). These have been interpreted as post-medieval ridge and furrow. The anomalies at **5309** appear to have a similar alignment to **5301** archaeological ditch features, suggesting a contemporary relationship.
- 4.2.92 Amorphous areas of magnetic variation have been identified across the site, with examples at **5310** – **5314**. These anomalies vary in size and have been interpreted as variation in local geology, with **5314** possibly a paleochannel.
- 4.2.93 Numerous weak positive linear anomalies are present across the site, with examples at **5315** – **5319**. These anomalies have been interpreted as modern ploughing.
- 4.2.94 A strong dipolar anomaly has been identified at **5320** (**Fig. 49** and **51**). This anomaly has been interpreted as a modern service.

HP389929 (Fig. 54 – 67)

- 4.2.95 A series of strong linear and rectilinear anomalies have been identified towards the southern end of the area at **5400** – **5405** (**Figure 63**). The anomaly at **5400** is 122 m long and 6 m – 12 m wide. The anomaly at **5401** comprises two sets of parallel anomalies; the south-eastern anomalies on an east – west alignment are 63 m long by 3 m wide, 30 m long by 4 m wide, and intersect the northern corner of **5400**; the northern anomalies are on a north – south alignment and are 81 m long by 2 m wide, and 70 m long by 2 m wide. The anomaly at **5402** covers an area of 90 m by 44 m, with linear anomalies between 3 m and 5 m wide. The anomalies at **5403** cover an area 90 m by 21 m, with linear anomalies 3 m wide. The linear anomaly at **5404** is 59 m long by 4 m wide and is on an east – west alignment. The anomaly at **5405** comprises a right-angled linear anomaly 136 m south-east to north-west, 88 m east – west, and 3 m to 4 m wide. These anomalies are all indicative of ditch features and likely relate to an area of settlement activity. The anomaly at **5400** likely relates to an enclosure with those at **5401**, **5402**, **5404**, and **5405** forming associated field boundaries, while **5403** may form a track way or drove way. These features do not share a perpendicular alignment with the Roman road immediately west of the area, which suggests a different phase of activity.
- 4.2.96 Numerous weaker positive linear anomalies have been identified across the area at **5406** – **5432**. The strongest of these anomalies, at **5415**, is 88 m long north-east to south-west and 9 m wide. It is accompanied by a parallel linear anomaly immediately to the south which is 88 m long and 2 m wide. The anomalies are indicative of ditch features and likely relate to former boundary features of unknown date. These features are on multiple different alignments, which provides little associative context to other archaeological features, and do not appear to respect the alignment of the Roman road to the west. It is possible that these anomalies relate to modern agricultural practices, such as ploughing or drainage.
- 4.2.97 Discrete positive and negative anomalies are present across the site at **5433** – **5440**. The anomalies are between 10 m and 25 m in diameter. The anomalies at **5433** and **5434** correspond to known former chalk pits, as noted on the OS Six Inch map from 1888 – 1913.



It is likely that the remainder, not noted on maps, are also evidence of extraction activity in this area. Equally, there is the possibility that the ones not mapped are associated with natural pits in the chalk geology.

- 4.2.98 Numerous small discrete positive anomalies are noted in the southern portion of the site at **5441 (Figure 65)**. These anomalies are 1 m – 3 m in diameter and have been interpreted as possible archaeological pit features. Such features may have been used for the extraction of material, storage of materials, or refuse. Equally however, given the chalk geology, it is possible that they relate to natural pitting.
- 4.2.99 Several amorphous areas of magnetic variation are noted across the site at **5442 – 5447**. These areas have been interpreted as variation in local geology, such as colluvium or palaeochannels.
- 4.2.100 Numerous weak positive linear anomalies are present across the site, with examples at **5448 – 5453**. These anomalies have been interpreted as modern ploughing.
- 4.2.101 Two strong dipolar linear anomalies have been identified at **5454 and 5455 (Figure 65)**. These anomalies have been interpreted as modern services.

HP545593 (Fig. 66 – 71)

- 4.2.102 A positive linear anomaly, spread across several fields, has been identified in the centre of the area at **5500 – 5507 (Figure 69)**. The anomaly is 348 m long north-east to south-west, has a south-easterly spur 42 m long, and ranges between 2 m and 6 m wide. Further, the anomaly at **5505** appears to be a continuation of **5502**, covering an area of 65 m east – west by 22 m north – south. A linear return to the north, at **5506**, mirrors the alignment of the **5501** and **5502**, as does **5507**. These anomalies indicate archaeological ditch features, likely used as boundary features. The presence of a negative magnetic response along some of its edges suggests the presence of upcast material, such as the remains of a bank. This feature does not conform to any current field boundaries or landscape features, inferring an earlier date than the current field systems.
- 4.2.103 Another set of positive linear anomalies are present in the south-western portion of the area at **5508 and 5509 (Figure 71)**. The anomalies cover an area 65 m north-east to south-west by 69 m north-west to south-east. Similar to the anomalies at **5500 – 5507**, these anomalies indicate archaeological ditch features associated with agricultural land management. The northern most of the anomalies also displays a negative magnetic response, potentially inferring the presence of a bank. It is not possible to determine if these features are associated with one another or are different phases of activity without further investigation.
- 4.2.104 A weak positive linear anomaly has been identified in the centre of the area at **5510 (Figure 69)**. The anomaly is 37 m long north – south by 2 m wide. This anomaly may be an archaeological ditch feature, such as an agricultural boundary ditch. The proximity to **5503** suggests that they may be related to one another, though this feature is weaker in magnetic response. This feature may also be attributed to more modern agricultural disturbance, such as ploughing.
- 4.2.105 A series of positive linear anomalies are evident at **5511 (Fig. 69 – 71)**. The anomalies cover an area of 106 m east – west by 96 m north – south. These anomalies are likely one larger archaeological ditch feature, connected and radiating outward, possibly to connect with the features at **5500 – 5507**. However, they may be attributable to more modern ploughing or ditches.

- 4.2.106 A weak positive penannular anomaly is present in the south-west of the area at **5512 (Figure 71)**. The anomaly is 11 m in diameter and 2 m wide, with a break in the north-eastern quadrant. This anomaly may indicate archaeological settlement or funerary activity, such as a roundhouse or barrow. However, this feature is very weak and may be a product of variation in local geology or modern agricultural activity.
- 4.2.107 A weak circular anomaly is evident in the south-west of the area at **5513 (Figure 71)**. The anomaly is broken into northern and southern anomalies but has a 23 m overall diameter and is 2 m wide. This anomaly may indicate an archaeological funerary monument, such as a barrow. However, it is a weak anomaly and may be attributable to variation in local geology or modern agricultural ploughing.
- 4.2.108 Several amorphous areas of positive and negative variation have been identified across the area at **5514 – 5519**. These anomalies range in size, and may be associated with archaeological extraction activity, possibly further chalk extraction as seen elsewhere in the surrounding landscape. However, these anomalies may be attributable to natural variation in the local geology.
- 4.2.109 Weak positive parallel linear anomalies are present in the centre of the area at **5520 (Figure 69)**. The anomalies have been interpreted as post-medieval ridge and furrow. The features appear to have a similar alignment to **5502** archaeological ditch features, suggesting a contemporary relationship.
- 4.2.110 A weak positive linear anomaly is evident at **5521 (Figure 69)**. The anomaly is 154 m long and 2 m wide. This anomaly may be a former field boundary, not noted on historical maps. However, it may also be a further part of historical cultivation or a land drain.
- 4.2.111 An amorphous area of magnetic variation has been identified at **5522**. This has been interpreted as variation in local geology.
- 4.2.112 Areas of parallel linear anomalies have been identified across the area at **5523 – 5527**. These have been interpreted as modern ploughing.
- HP742288 (Fig. 72 – 77)*
- 4.2.113 Strong positive linear anomalies are present in the north of the area at **5600 – 5603 (Figure 75)**. The anomaly at **5600** is 65 m long north-east to south-west and 4 m wide; The anomaly at **5601** is 42 m long north-east to south-west and 4 m wide; the anomaly at **5602** is 44 m long north-east to south-west and 4 m wide; the anomaly at **5603** runs parallel to **5600**, is 37 m long north-east to south-west and 4 m wide. These anomalies have been interpreted as archaeological ditch features, most likely associated with an agricultural boundary ditch.
- 4.2.114 A weak positive rectilinear anomaly is present in the north of the area at **5604 (Figure 75)**. The anomaly covers an area 54 m by 59 m, with individual linear widths of 3 m – 4 m. This anomaly has been interpreted as a possible archaeological ditched enclosure. However, the anomaly is very weak and may indicate geological variation or modern agricultural plough activity.
- 4.2.115 A large weak positive rectilinear anomaly is present in the centre of the area at **5605 – 5609 (Fig. 75 – 77)**. The anomaly at **5605** is 40 m long by 5 m wide, the anomaly at **5606** is 34 m long east – west before turning 90 degrees to the south and continuing for a further 116 m and is 3 m – 4 m wide, the anomaly at **5607** is 60 m long north-east to south-west by 3 m wide, and the anomalies at **5608** and **5609** likely form one larger anomaly. The anomaly at **5608** is 26 m long and 5 m wide, while the anomaly at **5609** is 38 m long and 5 m wide.



These anomalies indicate a ditched enclosure likely associated with archaeological agricultural activity. However, these may correspond to modern agricultural processes or geological activity.

- 4.2.116 A set of positive linear anomalies have been identified at **5610 to 5612 (Figure 77)**. likely form parts of a singular, larger anomaly. The anomaly at **5610**, comprising a linear anomaly which forks into two linear anomalies, is 41 m long and between 2 m and 4 m wide; the anomaly at **5611** appears to be a continuation of the northern branch of **5610**, is 84 m long and 2 m wide; the anomaly at **5612** appears to be a continuation of the southern branch of **5610**, is 54 m long, and between 2 m and 3 m wide. The anomalies have been interpreted as possible archaeological ditch features, potentially associated with agricultural boundary ditches for settlement purposes. The difference in alignment and parallel features may suggest parts of different field systems, with orientations not compliant with modern boundaries. Again, these anomalies may be attributable to variation in local geology or disturbance from modern agricultural practices, such as ploughing.
- 4.2.117 Numerous discrete anomalies of variable magnetic response are evident across the area at **5613 – 5628**. The anomalies range in diameter from 4 m – 17 m. These anomalies have been interpreted as possible archaeological pit features, such as extraction pits. There are numerous chalk pits noted on OS maps in the surrounding landscape, and these may infer more of the same activity. However, they may also be natural pitting in the chalk bedrock.
- 4.2.118 Several bands of subtle magnetic variation have been noted across the area at **5629 – 5633**. These anomalies range in size but have all been interpreted as geological activity, possibly palaeochannels or natural ditches.
- 4.2.119 Further geological activity is noted in the form of discrete positive anomalies at **5634 (Figure 75)**. These features are likely attributable to natural pitting in the underlying geology.
- 4.2.120 An amorphous area of increased magnetic response has been identified in the northern portion of the area at **5635 (Figure 75)**. The anomaly is 29 m long and 8 m wide. This anomaly is likely associated with a modern agricultural spread.
- 4.2.121 An amorphous area of increased magnetic response has been identified at **5636 (Figure 75)**. The anomaly is 51 m long by 14 m wide. This anomaly is likely associated with landscaping or green waste disposal from the adjacent house to the west.
- 4.2.122 A linear anomaly of increased magnetic response is noted in the centre of the area at **5637 (Figure 75)**. This corresponds with a modern trackway seen on satellite imagery.
- 4.2.123 Several areas of weak positive parallel linear anomalies have been noted across the area, with examples at **5638 – 5640**. These anomalies have been interpreted as modern ploughing, due to their correspondence with existing plough lines seen on satellite imagery.

HP511231 (Fig. 76 – 79)

- 4.2.124 A pair of parallel positive linear anomalies, with a northern spur, is visible in the south of the area at **5700 (Figure 79)**. The northern anomaly is 59 m long north-east to south-west by 3 m wide with a northerly spur 49 m long south-east to north-west by 3 m wide. The southern anomaly is 60 m long north-east to south-west and 3 m – 5 m wide. These anomalies have been interpreted as archaeological ditch features, likely boundary ditches for agricultural practices or settlement activity. The parallel nature of the two anomalies indicates a trackway.



- 4.2.125 A strong positive linear anomaly is present in the south of the area at **5701 (Figure 79)**. The anomaly is 48 m long east – west by 3 m wide and has a north-westerly spur 60 m long by 2 m wide. This anomaly is likely associated with archaeological ditch features, such as agricultural boundary ditches. The east – west orientation of the feature is aligned with an existing field boundary to the east and may infer an older association.
- 4.2.126 A strong positive rectangular anomaly, surrounded by a weak positive penannular anomaly, has been identified in the south of the area at **5702 (Figure 79)**. The central anomaly is 6 m long by 2 m wide, while the surrounding anomaly is 39 m in diameter north – south and 3 m wide. The central anomaly has been interpreted as an archaeological feature, possibly a pit which may be enclosed by the penannular ditch. However, the penannular anomaly may be associated with natural variation in local geology.
- 4.2.127 A weak positive penannular anomaly is present at **5703 (Figure 77)**. The anomaly is 7 m in diameter with a break in the northern portion of the ring. This anomaly has been interpreted as a possible archaeological ditch feature, such as the remains of a roundhouse. Given that this is a weak magnetic response, it may be possible that it pertains to variation in local geology, or modern agricultural disturbance such as ploughing, instead of an archaeological origin.
- 4.2.128 Numerous weak positive linear anomalies are evident across the site at **5704 – 5712 (Fig. 77 and 79)**. The anomalies range in size and orientation, with most on an east – west alignment. A complex example of these anomalies is seen at **5708**. This anomaly comprises four linear anomalies, on a broadly east – west orientation, covering an area of 54 m east – west by 30 m north – south. These anomalies have been interpreted as possible archaeological boundary ditch features, associated with agricultural land management. Some features conform to nearby modern field boundary alignments suggestive of a common origin. However, these anomalies may be attributable to more modern interference, such as land drains, or perhaps former field boundaries not noted on OS historic maps.
- 4.2.129 Numerous discrete positive anomalies are present across the site at **5713 – 5717 (Fig. 77 and 79)**. These anomalies range between 2 m and 7 m in diameter. These have been interpreted as possible archaeological pit features, such as extraction or refuse pits. They may be associated with settlement or agriculture. However, they could equally relate to natural pitting in the chalk bedrock.
- 4.2.130 A weak positive linear anomaly is present in the south of the area at **5718 (Figure 79)**. The anomaly is 50 m long and 3 m wide. This corresponds to a former field boundary noted on the OS Six Inch map from 1888 – 1913.
- 4.2.131 An area of amorphous increased magnetic response is evident at **5719 (Figure 79)**. The anomaly is 29 m in diameter at its widest extent. This anomaly may be associated with the position of an animal feeding trough, as livestock are noted in satellite imagery from 2022. This feature may also be a product of variation in local geology.
- 4.2.132 Weak parallel positive linear anomalies have been identified at **5720 (Figure 77)**. These anomalies have been interpreted as modern plough lines.
- 4.2.133 A strong dipolar linear anomaly is evident at **5721 (Figure 79)**. This anomaly has been interpreted as a modern service.



HP751237 (Figure 81)

- 4.2.134 A strong positive linear anomaly has been identified at **5800**. The anomaly is 15 m long and 2 m wide. This anomaly has been interpreted as an archaeological ditch feature, such as a boundary feature. The feature may be cut at the western end by a modern service, possibly hiding further archaeological activity. However, without further context this feature may instead relate to variation in local geology or an agricultural ditch.
- 4.2.135 Discrete positive anomalies have been identified at **5801** and **5802**. The anomalies are 3 m in diameter and may pertain to archaeological pit features, such as extraction or refuse pits. However, they may instead be natural pitting in the local geology.
- 4.2.136 An amorphous area of increased magnetic response is evident at **5803**. The anomaly is 44 m by 21 m. This may pertain to a modern agricultural spread over this area.
- 4.2.137 A strong dipolar linear anomaly is present at **5804**. The anomaly is 122 m long and has been interpreted as a modern service.
- 4.2.138 A weak negative linear anomaly is present at **5805**. This anomaly has been interpreted as a land drain.

HP708078 (Fig. 80 – 85)

- 4.2.139 Four strong positive linear anomalies have been identified across the area at **5900 – 5903** (**Fig. 83** and **85**). The anomaly at **5900** is 152 m long north – south and 3 m wide, the anomaly at **5901** is 20 m long south-east to north-west and 2 m wide, the anomaly at **5902** is likely a continuation of **5901** and is 42 m long south-east to north-west by 2 m wide, the anomaly at **5903** is 80 m long east – west and 3 m wide. These anomalies likely represent archaeological ditch features, such as agricultural boundaries. While a date cannot be attributed from the geophysical survey data alone, they do not appear on any available mapping, nor do they respect the current layout, suggesting an earlier date.
- 4.2.140 Multiple weak positive linear anomalies are present across the area at **5904 – 5915** (**Fig. 83** and **85**). The anomalies range in size and orientation, with many on an east – west alignment. The largest of the anomalies can be seen at **5915** (**Figure 85**). The anomaly comprises two intersecting linear anomalies which cover an area of 72 m east – west by 55 m north – south, and are 3 m – 5 m wide. These are interpreted as possible archaeological ditch features, possibly associated with agricultural boundaries. The east – west oriented features could be associated with the current layout of field boundaries but are not noted on any available mapping. However, the majority of the anomalies have a weak magnetic response and may in fact be related to natural variation in local geology, such as gravel deposits or palaeochannels, or attributable to more modern agricultural interventions, such as ploughing.
- 4.2.141 A weak positive penannular anomaly is present in the north of the area at **5916** (**Figure 83**). The anomaly is 7 m in diameter and has a break in the south-eastern portion of the ring. This anomaly may represent a ring ditch or gully associated with a Bronze Age barrow or an Iron Age roundhouse. However, the weak nature of the anomaly make confident interpretation difficult and it could equally relate to natural geological variation.
- 4.2.142 Two large amorphous positive and negative anomalies are present in the north of the area at **5917** and **5918** (**Figure 83**). The anomaly at **5917** is 7 m in diameter, while the anomaly at **5918** is 19 m in diameter. These anomalies are consistent with extraction activity, which is recorded in the surrounding area. However, they could equally be natural pitting in the chalk bedrock.



- 4.2.143 Numerous discrete positive anomalies are present across the site, with an example at **5919 (Figure 83)**. These anomalies are 1 m – 3 m in diameter and may indicate archaeological pit features, such as extraction or refuse pits. However, they could equally be natural pitting in the chalk bedrock.
- 4.2.144 Two broad swathes of magnetic variation are noted at **5920** and **5921 (Fig. 83 and 85)**. These have been interpreted as variation in local geology, such as colluvium or variation in the underlying gravels.
- 4.2.145 A strong dipolar anomaly has been identified in the north of the area at **5922 (Figure 83)**. This is interpreted as a modern service.
- 4.2.146 Numerous weak parallel positive anomalies are present across the area at **5923 – 5927 (Fig. 83 and 85)**. These anomalies have been interpreted as modern plough lines.
- HP738761 (Fig. 88 – 89)*
- 4.2.147 A series of weak positive linear anomalies have been identified across the north of the area at **6000 – 6004 (Figure 89)**. The anomaly at **6000** is 59 m long by 3 m wide and has small eastern and western spurs towards the north-east and north-west respectively, the anomaly at **6001** covers an area 40 m by 30 m with individual anomaly widths between 1 m and 3 m, the anomaly at **6002** is 74 m long north-east to south-west by 4 m wide, the anomaly at **6003** is 77 m long north-east to south-west by 2 m – 4 m wide and has a small northerly spur in the centre of the anomaly, and the anomaly at **6004** is 46 m long north-east to south-west by 2 m wide. These anomalies are all indicative of ditch features and may represent an area of archaeological settlement activity. The irregular ring at **6001** may be an enclosure, with the larger features being wider boundaries. However, these anomalies are very weak and it is equally possible they relate to natural variation in local geology or agricultural practices, such as ploughing.
- 4.2.148 A series of strong dipolar anomalies are present in the south of the area at **6005 – 6007 (Figure 89)**. These anomalies are interpreted as modern services.
- 4.2.149 A large amount of increased magnetic response has been identified across the majority of the area. This is attributable to signal interference from the nearby communication towers. This disruption may mask any archaeological activity that may be in the area.

5 DISCUSSION

- 5.1.1 The gradiometer survey has produced evidence for archaeological activity across the site. Multiple enclosure ditches have been identified, which are attributable to multi-phase agricultural and settlement activity covering various phases potentially from the Bronze Age through to the modern day. Some correspond to known features in the landscape, including the Andyke scheduled monument, the continuation of the Winchester to Cirencester Roman road, and to existing field boundaries, which provide an interconnected relationship between the archaeological activity and the contemporary. Some settlement activity is highlighted by the presence of penannular, ring, and rectangular features.
- 5.1.2 Several features associated with funerary activity have also been noted across the site. These mostly correspond to Bronze Age barrows and is consistent with the known background of the site.



- 5.1.3 Numerous pit features are evident across the site. Some of these correspond to known gravel and chalk extraction pits, noted on OS maps. However, many are either unmarked extraction pits or pertain to other archaeological activity such as storage or refuse pits.
- 5.1.4 Land delineation has been noted in forms other than ditches, where lynchet field systems have been identified. These features are associated with the stepping of hillsides to provide more agreeable agricultural platforms.
- 5.1.5 Some areas of historical cultivation are noted on the site. These are characterised by regular parallel lines and are associated with ridge and furrow cultivation during the medieval and/or post-medieval period.
- 5.1.6 Former field boundaries corresponding to those noted on historical maps have been identified across the site. Some of these features do not appear on maps but are aligned with contemporary field boundaries and archaeological activity.
- 5.1.7 A wide variety of geological processes have been identified across the site. Characterised by subtle variation in the magnetic response, these are associated with colluvial activity, natural pitting, and probable alluvial gravels.
- 5.1.8 Multiple areas of increased magnetic response have been identified. These pertain to modern trackways and agricultural processes. However, the southern portion of the site has increased magnetic response due to the frequency of communication towers interfering with the sensors.
- 5.1.9 The remaining anomalies are thought to be modern. These include ploughing, drainage, and services.



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Online resources

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<http://mapapps.bgs.ac.uk/geologyofbritain/home.html>

Google Earth website <http://earth.google.com> (accessed Feb 2023)

Historic England (HE) website <https://historicengland.org.uk/listing/the-list/map-search> (accessed Feb 2023)

Historic England Aerial Photography Maps <https://historicengland.maps.arcgis.com/> (accessed Feb 2023)

Heritage Gateway website <https://www.heritagegateway.org.uk/gateway> (accessed Feb 2023)

National Library of Scotland (NLS) <https://maps.nls.uk/geo/explore/> (accessed Feb 2023)



APPENDICES

Appendix 1 Survey equipment and data processing

Survey methods and equipment

The magnetic data for this project were acquired using a non-magnetic cart fitted with four SenSys FGM650/3 magnetic gradiometers. The instrument has four sensor assemblies fixed horizontally 1 m apart allowing four traverses to be recorded simultaneously. Each sensor contains two fluxgate magnetometers arranged vertically with a 0.6 m separation and measures the difference between the vertical components of the total magnetic field within each sensor array. This arrangement of magnetometers suppresses any diurnal or low frequency effects.

The gradiometers have an effective resolution of $\pm 8 \mu\text{T}$ over $\pm 1000 \text{ nT}$ range. All of the data are then relayed to a CS35 tablet, running the MONMX program, which is used to record the survey data from the array of FGM650/3 probes at a rate of 20 Hz. The program also receives measurements from a GPS system, which is fixed to the cart at a measured distance from the sensors, providing real time locational data for each data point.

The cart-based system relies upon accurate GPS location data which is collected using a Leica Captivate system with rover and base station. This receives corrections from a network of reference stations operated by the Ordnance Survey and Leica Geosystems, allowing positions to be determined with a precision of 0.02m in real-time and therefore exceed the level of accuracy recommended by European Archaeologiae Consilium recommendations (Schmidt et al. 2015) for geophysical surveys.

Data may be collected with a higher sample density where complex archaeological anomalies are encountered, to aid the detection and characterisation of small and ephemeral features. Data may be collected at up to 0.01 m intervals along traverses spaced up to 0.25m apart.

Post-processing

The magnetic data collected during the survey is downloaded from the system for processing and analysis using both commercial and in-house software. This software allows for both the data and the images to be processed in order to enhance the results for analysis; however, it should be noted that minimal data processing is conducted so as not to distort the anomalies.

Typical data and image processing steps may include:

- GPS DeStripe – Determines the median of each transect and then subtracts that value from each datapoint in the transect within the defined window. May be used to remove the striping effect seen within a survey caused by directional effects, drift, etc.
- Discard Overlaps - Intended to eliminate a track(s) that have been collected too close to one another. Without this, the results of the interpolation process can be distorted as it tries to accommodate very close points with potentially differing values.
- GPS Base Interpolation – Sets the X & Y interval of the interpolated data and the track radius (area around each datapoint that is included in the interpolated result).

Typical displays of the data used during processing and analysis:



- Greyscale – Presents the data in plan view using a greyscale to indicate the relative strength of the signal at each measurement point. These plots can be produced in colour to highlight certain features but generally greyscale plots are used during analysis of the data.



Appendix 2 Geophysical interpretation

The interpretation methodology used by Wessex Archaeology separates the anomalies into four main categories: archaeological, modern, agricultural, and uncertain origin/geological.

The archaeological category is used for features when the form, nature and pattern of the anomaly are indicative of archaeological material. Further sources of information such as aerial photographs may also have been incorporated in providing the final interpretation. This category is further sub-divided into three groups, implying a decreasing level of confidence:

- Archaeology – used when there is a clear geophysical response and anthropogenic pattern.
- Possible archaeology – used for features which give a response, but which form no discernible pattern or trend.

The modern category is used for anomalies that are presumed to be relatively modern in date:

- Ferrous – used for responses caused by ferrous material. These anomalies are likely to be of modern origin.
- Modern service – used for responses considered relating to cables and pipes; most are composed of ferrous/ceramic material although services made from non-magnetic material can sometimes be observed.

The agricultural category is used for the following:

- Former field boundaries – used for ditch sections that correspond to the position of boundaries marked on earlier mapping.
- Ridge and furrow – used for broad and diffuse linear anomalies that are considered to indicate areas of former ridge and furrow.
- Ploughing – used for well-defined narrow linear responses, usually aligned parallel to existing field boundaries.
- Drainage – used to define the course of ceramic field drains that are visible in the data as a series of repeating bipolar (black and white) responses.

The uncertain origin/geological category is used for features when the form, nature and pattern of the anomaly are not sufficient to warrant a classification as an archaeological feature. This category is further sub-divided into:

- Increased magnetic response – used for areas dominated by indistinct anomalies which may have some archaeological potential.
- Trend – used for low amplitude or indistinct linear anomalies.
- Superficial geology – used for diffuse edged spreads considered to relate to shallow geological deposits. They can be distinguished as areas of positive, negative, or broad bipolar (positive and negative) anomalies.



Appendix 3 OASIS form

Project Details:

Project name		Andover Link Main, Hampshire			
Type of project		Detailed gradiometer survey			
Project description		<p>The survey has produced evidence for archaeological activity across the site. Multiple enclosure ditches have been identified, which are attributable to multi-phase agricultural and settlement activity covering various phases potentially from the Bronze Age through to the modern day. Some correspond to known features in the landscape, including the Andyke scheduled monument, the continuation of the Winchester to Cirencester Roman road, and to existing field boundaries, which provide an interconnected relationship between the archaeological activity and the contemporary. Some settlement activity is highlighted by the presence of penannular, ring, and rectangular features.</p> <p>Several features associated with funerary activity have also been noted across the site. These mostly correspond to Bronze Age barrows and is consistent with the known background of the site.</p> <p>Numerous pit features are evident across the site. Some of these correspond to known gravel and chalk extraction pits, noted on OS maps. However, many are either unmarked extraction pits or pertain to other archaeological activity such as storage or refuse pits.</p> <p>Some areas of historical cultivation are noted on the site. These include areas of ridge and furrow and former field boundaries.</p> <p>A wide variety of geological processes have been identified across the site. Characterised by subtle variation in the magnetic response, these are associated with colluvial activity, natural pitting, and probable alluvial gravels.</p> <p>Multiple areas of increased magnetic response have been identified. These pertain to modern trackways and agricultural processes. However, the southern portion of the site has increased magnetic response due to the frequency of communication towers interfering with the sensors.</p> <p>The remaining anomalies are thought to be modern. These include ploughing, drainage, and services.</p>			
Project dates		Start: 10-11-2022		End: 24-01-2023	
Previous work		DBA, Magnetometry Survey, Archaeological Evaluation			
Future work		Not known			
Project Code:	266081	HER event no.	If relevant	OASIS form ID:	wessexar1-513683
		NMR no.	N/A		
		SM no.	N/A		
Planning Application Ref.					
Site Status		None			
Land use		Agricultural crop, arable, scrub, pasture			
Monument type		Roman Road, misc enclosures	Period	Bronze Age - medieval	
Project Location:					
Site Address	Crab Wood Treatment Plant, Sarum Road, Winchester,			Postcode	S022 5QT
County	Hampshire	District	Test Valley/Winchester	Parish	Andover/Hursley
Study Area	235 ha	Height OD	50 – 157 m aOD	NGR	437566 145489 444978 129437
Project Creators:					
Name of Organisation		Wessex Archaeology			
Project brief originator		Southern Water Services Ltd	Project design originator		Southern Water Services Ltd
Project Manager		Tom Richardson	Project Supervisor		Pamela Warne, Jake Bishop, Lydia Jones, Cameron Ray, Filippo Carrozzo
Sponsor or funding body		Southern Water Services Ltd	Type of Sponsor		Corporation
Project Archive and Bibliography:					
Physical archive	N/A	Digital Archive	Geophysical survey and report	Paper Archive	N/A
Report title	Andover Link Main			Date	2023
Author	Wessex Archaeology	Description	Unpublished report	Report ref.	266081.03



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